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ABSTRACT

The relationship of background factors to separation reaction and social emotional adjustment at the start of nursery school was examined in 106 middle-class 4-year-olds. Mothers completed the Cain-Levine Social Competency Scale and questionnaires on the social experience of their children. Ratings of reactions to separation and of adjustment were obtained on the first day of nursery school and one and five weeks later. Experience with playmates at home, experience in group settings away from home, and contact with different baby sitters in the home were each independently related to ease of initial separation. A total social experience score correlated -.46 ($p<.001$) with separation distress. The social experience score was not related to fifth-week separation problems but was correlated with adjustment through the fifth week. Social competency was not related to separation reaction ratings or social experience but was correlated with adjustment through the fifth week. The results supported the view that the distress which some children exhibit at the start of nursery school is a function of the novelty of the situation for the child in question. [Filmed from best available copy.] (Author)

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Starting Nursery School, II: Prediction of Children's Initial Emotional Reactions from Background Information

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Final Report

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Starting Nursery School II: Prediction of Children's Initial Emotional Reactions from Background Information[1]

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Each year a small percentage of the children who start nursery school show an initial adverse emotional reaction which is distressing to mothers, teachers, and other pupils, as well as to the child himself. The causes of these reactions are not well understood, there is little empirical data on either the incidence, course, or possible antecedants and correlates. Moreover, the theory which has been used in case reports to account for the adverse reactions of individual children is either unsystematic, untested, or untestable. This study was undertaken with two objectives, (a) obtaining empirical data relevant to a novelty theory of initial emotional reactions to nursery school and (b) identifying experiential variables which are correlated with and potentially predictive of the child's emotional reaction to separation from the mother on the first day of nursery school and of his initial social-emotional adjustment to nursery school.

In connection with a recent experimental comparison of different methods of starting nursery school (Schwarz & Wynn, in press), measurements were made of the emotional reactions of 106 four-year-old children on the first day of nursery school and on later follow-up days. The relationships found between these measures of emotional reaction and several background factors are reported here. Mothers of the children in this study responded to a questionnaire which inquired about the child's prior history of social experience. The general hypothesis guiding the selection of background information for inquiry was as

follows: the greater the child's experience with situations which have components similar to the nursery school situation, the less aversive the initial separation from the mother and the more positive the adjustment on the first day of nursery school.

Method

Subjects

The subjects were 106 children (56 females and 50 males) enrolled in the Laboratory Nursery School of Syracuse University at Liverpool, New York. The school consisted of three morning and three afternoon classes of 18 pupils each staffed by a head teacher, an assistant teacher, and a student teacher. Pupils ranged in age from 3 1/2 to 5 years and were drawn on a voluntary basis from the Liverpool School District which is predominately Caucasian and middle-class. Tests on a random sample of 36 children indicated that the mean Stanford-Binet IQ was 118 with a standard deviation of 17 points. Pupils were admitted to the preschool program in order of the date of the application proportionately by area of residence.

Design

The design of the original experiment (Schwarz & Wynn, in press) consisted of four experimental conditions, the conbinations of two factors, (a) the occurrence or nonoccurrence of a 20-minute previsit prior to the start of school and (b) a 20-minute stay by the mother in the classroom vs. bidding the child good-bye at the door on the first day. However, these treatment factors accounted for no more than 7% of the variance on any dependent variable. Therefore, in the analyses reported

here, the effect of experimental treatments on the dependent variables was disregarded. Children's scores on the dependent variables (measures of emotional adjustment) were related to background variables rated by the mother without regard to the experimental condition under which the child began nursery school. One questionnaire on the child's background of social experience was mailed to mothers three weeks before the start of school. Other questionnaires on their child's attitude toward nursery school and his social competency were completed by the mother one week after the start.

Measures of emotional reaction

Measures of the child's emotional reaction were made on the first day and in two follow-up sessions. On the first day and the first follow-up session, one week later, the classes were divided into subgroups of nine children. The program consisted of 20 minutes of free play, 20 minutes of group activity, followed by 20 minutes more of free play. All mothers were present in the building during these sessions.

The mother's departure from the classroom was the occassion for the first rating of emotional adjustment, the Separation Reaction rating (SR1).

The head teacher said to the mother, "Please tell your child that you have to leave now." The child's reaction was rated by the student teacher on a six-point scale. A rating of one was given if the child showed no sign of discomfort and did not object to the mother's leaving. A rating of six was given if the child refused to be separated from the mother or if the child cried during or shortly after the mother's departure.

For the first follow-up session each mother brought her child to the door of the classroom so that ratings of the separation (SP2) could be made as before.

During the fifth week of nursery school the head teacher and assistant teacher made a follow-up consensus rating of each child's current reaction to separation from the mother (SR5) using the same Separation-Reaction scale.

Three measures of Adjustment to the nursery school situation were obtained on the first day and one week later; Position-Action, Comfort and Affect. From these three measures a composite index of initial adjustment was derived. The Comfort rating was repeated during the fifth week as a follow-up rating of Adjustment.

The Position-Action rating was made by the student teacher during the final 20 minutes of free play in the first session and in the first follow-up session. At 5-minute intervals the student teacher recorded in a fixed serial order, each child's locus relative to peers and teachers and his activity. The position categories were alone, with peer, and with teacher. The action categories were passive, active, and interactive. Adjustment score weights were assigned to the nine possible combinations of position and action. "Alone-Passive" received the lowest weight and "with peer-interactive" received the highest weight. A child's score consisted of the sum of weights for the four ratings.

The second measure of adjustment was obtained from ratings made by the mother of her child's Affect or attitude toward nursery school attendance for the day after the initial session and for the day of the first

follow-up session. The six-point scale employed in these ratings ranged from one (terrified or strongly resistive) to six (delighted, eager, elated.)

The third measure of adjustment, Comfort, was based upon observations made by the head and assistant teachers during the last 20 minutes of free play in the initial session and the first follow-up session. Their ratings were independently recorded in the last 5 minutes of each session. The five-point scale employed ranged from a low of one (crying or distressed facial expression, remains away from other children, no play or verbalization except negative expression) to a high of five (cheery facial expression, active play, extensive interaction with others) with appropriate descriptions of intermediate points. Comfort ratings of the head and assistant teacher were found to correlate .51 ($df = 98$, $p < .01$). The average of their ratings was employed for subsequent analyses.

During the fifth week of school, follow-up ratings of Comfort were made independently by the head and assistant teachers with the same scale. The average of these two comfort ratings constituted the adjustment rating for the fifth week follow-up (ADJ5).

As reported by Schwarz and Wynn (1969) the three measures of adjustment, Position-Action, Affect, and Comfort, were all found to be significantly intercorrelated. Rather than examine each variable independently, z-scores derived for each of these ratings were summed to produce a Composite Adjustment Score for the first day (ADJ1) and first follow-up (ADJ2). It was assumed that composite adjustment scores would be more reliable and probably more valid indices of adjustment than any one of the scales taken singly. The composite scores reflected primarily social-

PS 004480

emotional adjustment on the first day and on the first follow-up session after the departure of the mother.

Social Experience

Data on the child's background of social experience which might be predictive of emotional reactions to starting nursery school was obtained from a questionnaire, Diversity of Experience, mailed to the mother three weeks before school.

Mothers described, in terms of hours per week and months duration, their child's Group Experience with three or more other children outside of the home in such settings as nursery school, group baby sitting, and Sunday school. This information was converted into the Group Experience score which consisted of the total number of hours in group settings. It was assumed that this type of experience would be closest to the situation encountered in nursery school since it involved contact with several peer-age children and female adults (other than family members) in a setting less familiar than the home and in the absence of the mother.

The remaining items that appeared on the questionnaire requested the mother to select one, from a number of alternatives, which best described the type or extent of her child's experience. The second score, Playmates, was intended to reflect the variety of the child's experience with age mates in the home environment. The six alternatives ranged from "child has no playmates or usually plays alone" to "usually plays in a group of two or more children varying in composition from day to day." The third score, Goes Out, assessed the child's experience with separation from, and absence of the mother. Alternatives ranged from "we

don't go out unless we take our child along" to "go out three or more times a week." The score value assigned for this rating was the pro-rated yearly frequency, assuming some stability to this behavior. The fourth score, Sitters, was selected as an item of inquiry because of probable generalization to the role of nursery school teacher in terms of sex and age. The alternatives ranged from "use no sitters other than family members" to "more than eight different sitters used throughout the year, none on a regular basis."

Additional Background Variables

As a rough index of the cognitive preparation provided children before starting nursery school, mothers were asked to estimate the number of different times they and, separately, their husbands, had talked with their child about nursery school. Data were also available from the nursery school records on the sex and age of siblings.

Social Competency

Mothers reported their child's level of social competency by completing the Cain-Levine Scale (1963) in small supervised groups during their visit to the nursery school one week after the start of class. The Social Competency scale contains 44 scalar items pertaining to competency in the areas of self-sufficiency, communication, initiative, and social skills. Each child's total score was used in the analysis.

Results

Social Experience and Separation-Reaction

Visual examination of scatter diagrams between SR1 and each of the four social experience variables revealed that the relationships lacked

homoscedasticity. The scatter plots were triangular in configuration subjects who were high or intermediate on each social experience variable had predominately low scores (no distress) on SR1 whereas subjects low on each social experience variable had wide variation on SR1 scores.

The data were cast in 2 x 2 contingency tables for a test of the association between SR1 and each social experience variable. The SR1 distribution was split between scores Of 2 (mild apprehension) and 3 (brief appeal for reassurance) Group Experience was split between 'no experience' and "one or more hours', Playmates between 'none or one' and "two or more", Goes Out was split between 'a few times per year or less' and "once a month or more", and Sitters was split between "one or less" and "two or more". In the case of Group Experience, Playmates, and Sitters, the association with SR1 was significant at the .01 level ($\underline{X}^2$s = 8.80, 8.56, and 9.48 respectively, $\underline{df}$ = 1), and the association with Goes Out was significant at the .05 level ($\underline{X}^2$ = 6.45, $\underline{df}$ = 1).

Since all of these experience variables were related to the SR1 the question about their relationship to one another arose. These inter-relationships were examined with product-moment correlations using the full range of scores and with chi-square tests employing the dichotomies indicated above. The correlation coefficients ranged from -.03 to +.15, and none was statistically significant. One chi-square test was significant, that between Goes Out and Sitters, an inevitable relationship since mothers who stay home have no need for baby sitters.

The triangular configuration of the scatter diagrams and psychological theory suggested that social experience may be additive and substitutive

i.e., lack of a specific experience may not be detrimental if one has some other compensating or functionally equivalent experience. Both as a test of this model and in an effort to maximize the prediction of separation reaction, a total Social Experience score was obtained. It consisted simply of the number of social-experience variables on which the subject's score was above the cut-off used for dichotomizing these variables in the chi-square tests above.

Insert Table 1 about here

A contingency table of the association between number of social experiences above the cut-off and SR1 scores is presented in Table 1. Only 1 of the 56 subjects with three or four social experiences showed appreciable distress upon the departure of the mother, whereas 15 of the 44 subjects with less than three social experiences showed distress and 7 of these either cried or refused to be separated from the mother. The association between SR1 and number of social experiences was significant beyond the .001 level (Kendal Tau = .25, z = 3.58).

Insert Table 2 about here

Presented in Table 2 are the intercorrelations among Social Experience, Social Competency, ratings of Separation Reaction and Adjustment for the first day, the second week, and the fifth week (SR1, SR2, SR5 and ADJ1, ADJ2, ADJ5, respectively), and Total adjustment (ADJT). Also

presented are the means, standard deviations, and the total number of subjects for whom a score was available on each variable. A comparison of the intercorrelation matrices computed separately for males and females revealed only minor differences which may have arisen by chance therefore, the sexes were combined. The only dimension on which the sexes differed at the .05 level was Social Competency: the mean for females was 5.4 scale points higher than for males and the point-biserial correlation with sex was .20. The ADJT score was obtained by converting ADJ5, the average teacher rating of comfort, to a z-score and averaging ADJ1, 2, and 5 in their z-score form.

First it may be noted in Table 2 that the association of Social Experience with SR scores dropped progressively from SR1 through SR5. Its relationship to SR2 was low but significant at the .05 level. The relationship to SR5 was not significant. This change in correlation seemed due, in part, to decreasing apprehension on the part of children who were initially distressed by separation. The percentage of subjects who showed no apprehension whatever rose from 68% at SR1 to 89% at SR2 and 90% at SR5.

On the other hand, social experience remained significantly correlated with ADJ1, 2 and 5. The correlation of Social Experience with ADJT, presumably a more reliable index of social-emotional adjustment than ADJ1, 2, or 5, was even higher (r = .37, df = 98, p < .001). As with SR there was an increase in adjustment from the day-one level. The means of ADJ1 and ADJ2 do not reflect this change because they were transformed to z-scores; however, the teachers' ratings of Comfort do, and

59% of subjects received ratings of 4 or 5 (relaxed, happy, involved) on day one, 83% the second week and 81% the fifth week. Although the adjustment to nursery school improved from the first day, the remaining variation in adjustment between children was associated with the diversity of a child's prior social experience.

The Social Competency score from the Cain-Levine, though not significantly correlated with Social Experience, was correlated significantly with ADJ1, 2, and 5, and had its highest relationship with ADJT (r = .37, df = 98, p < .001). The multiple correlation of Social Experience and Social Competency with ADJT was .49. In contrast with Social Experience, Social Competency was unrelated to SR, which indicated that the social competency of a child was not predictive of his emotional reaction to separation in the Nursery school situation.

It may be noted in Table 2 that the correlations between SR and ADJ scores of the same week are higher than those between SR and ADJ scores from different weeks. This suggested that despite variation from one rating to another in both adjustment and reaction to separation, the children who currently showed disturbance over separation had less adequate classroom adjustment within a given rating period. There was also evidence for progressive change in adjustment over time, in that, the correlation between ADJ1 and ADJ2 was higher than that between ADJ1 and ADJ5. Similarly, the correlation between ADJ2 and ADJ5 was higher than that between ADJ1 and ADJ5. Such a pattern would result from increasing shifts over time in the rank order of individuals on adjustment. In the case of SR scores, it may be noted that while there is a low but significant

association between SR1 and SR2, SR5 was not related to SR1 or SR2.

Other Background Variables

Neither the mother's nor the father's frequency of speaking to the child about starting nursery school was significantly related to SR or ADJ scores. Neither the number of siblings, the number of older sublings, nor whether the child was the oldest, youngest, or the middle child in the sibship were related to social Experience, Social Competency, and initial or follow-up SR and ADJ scores. However, it was noted that seven of the ten children who showed reluctance or apprehension over separation from the mother in the fifth week were youngest children in sibships of three or more. The incidence of continued distress was about one in four for the youngest children from sibships of three or more and about one in twenty for all other sibling positions. This association of separation distress with this sibling position was statistically significant (X^2 = 5.21, df = 1, $p < .05$). The association of the same sibling position with initial separation distress was not significant.

DISCUSSION

The observed relationship between the variety of prior social experiences and the absence of distress at the mother's departure was consistant with the hypothesis that initial distress is a function of the novelty of the situation for the child in question. As set forth in arousal-reinforcement theory, Berlyne (1967) contends that high degrees of novelty are aversive and tend to be avoided. It was this hypothesis about the role of novelty in evoking aversive levels of arousal which guided the choice of social experiences about which inquiries were made. It was assumed

that, via stimulus generalization, experiences which had some component of similarity to the situation at the start of nursery school would reduce the novelty of this experience for the child. The data suggested that prior social experience reduces emotional distress at separation. However, since social experience was not directly manipulated, causality cannot be assumed. It is possible that some third factor, such as genetically determined social introversion linking the mother and the child, could have produced this association, since the mother controls the child's social experience.

An alternative to the novelty explanation is the hypothesis that distress at separation on the first day of nursery school is primarily a response to threatened loss of the mother. This hypothesis was consistent with some aspects of the data but not with others. For example, it might be argued that children with prior nursery school or Sunday school experience had learned that separation from the mother is followed by reunion. The same may be said of children whose mothers often left them with baby-sitters. However, SR scores were also significantly related to experience with peer-age playmates and to the number of <u>different</u> baby-sitters. The later experiences seem more closely related to reducing the novelty and aversiveness of the strange peers and adults through generalization, than to reducing the threat of maternal loss.

In contrast to direct experiences, none of the vicarious social experiences assessed were related to the child's separation reaction or later adjustment. It had been anticipated that the child's exposure to older siblings would reduce the novelty of school attending behavior and,

through role modeling, promote positive attitudes and mature behavior on the first day. However, neither ordinal position in the sibship, number of older sibs, nor frequency of parental discussion of the impending nursery school experience was predictive of separation reaction or adjustment. These findings suggested the tentative hypothesis that direct exposure to related elements rather then vicarious experience is required to reduce the novelty of the nursery school social situation.

Somewhat surprising but consistent with the novelty hypothesis, was the lack of relationship between the initial reaction to separation and social competency. This means that both socially competent and incompetent children were disturbed, and that high social competency did not preclude overt manifestations of distress, seemingly induced in the inexperienced child by the novelty of the situation.

Another surprise was the independence of social competency from the measure of social experience. One might have anticipated a positive relationship, in that the socially experienced child has greater need for social competency and greater opportunity for practice. Given the content of the Cain-Levine scale, it would appear that a child is more likely to achieve a high score if the parents actively encourage and reward the acquisition of behaviors which make the child a self-reliant, contributing, and cooperative group member. This conclusion is consistent with other findings (Baldwin, 1948, 1949). The benefits of social experience may accrue via a less active process which is more like habituation than operant conditioning, i.e., repeated exposure to diverse stimuli may be the crucial ingredient. Through this passive exposure a wide range of stimulus conditions may lose their capacity to disrupt the child emotionally.

It was also of interest that Social Experience remained correlated with ADJ beyond the period of its relationship to SR. This suggested two explanations: (a) some stimulus elements in the situation had remained emotionally disruptive for the child; their novelty was not yet fully adapted, and thus the child's social-emotional adjustment was retarded. (b) Diverse social experience provided the opportunity to learn (with agents other than the parent) social skills not included on the Cain-Levine. The possession of these particular skills also may have facilitated adjustment in the nursery school setting. The broad range of skills assessed by the Cain-Levine detracted somewhat from the plausibility of the second. On the other hand, the self-imposed social isolation observed in some nursery school children suggested that the novelty of interacting with teachers and peers had remained emotionally disruptive for them and had motivated the development of avoidant defenses. The evidence, such as it was, seemed to favor the unadapted-novelty explanation.

For those children who were initially distressed, the adaptation to nursery school proceeded rapidly. The number of children who continued to manifest separation problems at the fifth-week follow-up was quite small. Of the 15 children with SR2 scores greater than two, only 2 received ratings greater than two by the fifth week. All six children who cried on the first day completely resolved their problems (i.e. received scores of one) by the fifth week. On the other hand, three females who showed no apprehension on the first day had developed some resistance to being left at nursery school by the fifth week.

The over representation of the last born children from large families

among those with fifth-week separation difficulty (scores of two or higher) was an unanticipated finding and needs cross validation. Assuming that the association was not chance, one possible explanation was that some mothers with several school-age children were ambivalent about giving up the companionship and role definition of having a child at home and communicated this conflict to their child. A second possibility was that the last-born child is reared indulgently: his occasional resistance to nursery school attendance may be reinforced by the mother.

In conclusion, the results indicated that initial separation problems are not likely to occur in the socially experienced middle-class four-year-old. They also suggested that the novelty of the situation was a strong contributing factor, but perhaps not the only determinant of these adverse reactions which occurred among the inexperienced. However, as reported earlier (Schwarz & Wynn, in press), a 20-minute previsit and the presence of the mother in the classroom for 20 minutes on the first day did not facilitate emotional adjustment. The ineffectiveness of these brief treatments and the evidence that the effects of limited social experience extend beyond the first week suggested that a longer period, perhaps more than a week, may be required to compensate for lack of social experience. During the initial weeks, the teachers in this study made special arrangements to facilitate the adjustment of children who were markedly distressed, e.g. one mother remained just outside the classroom for two weeks.

Since it appears possible to identify children with a high likelyhood of initial distress, it seems feasible to plan in advance a program of gradual introduction for this subgroup. Forwarned of possible adverse reaction, the mother and the teacher can provide the inexperienced child with needed familiar stimuli, which can be withdrawn gradually as adaptation progresses. From this theoretical perspective, removing the child completely from the situation to which he must eventually adapt holds no advantage. If the child exhibits strong avoidant responses, active encouragement may be required to facilitate the needed exposure.

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Table 1

Contingency Table for SR1 and Social Experience

SR1	Number of Social Experiences					Total
	0	1	2	3	4	
1 No discomfort	1	6	15	30	16	68
2 Mild apprehension			7	4	5	16
3 Appeal for reassurance		2				2
4 Objects to mother's leaving		2	2	1		5
5 Prolonged objection			2			2
6 Cried or refused to separate	1	4	2			7
Total	2	14	28	35	21	100

TABLE 2

Intercorrelations among Social Experience, Social Competency, and Ratings of Separation Reaction and Adjustment from the First Day, Second Week, and Fifth Week

Variable	SOCOM	SR1	SR2	SR5	ADJ1	ADJ2	ADJ5	ADJT	M	s_D	N
Social Experience	.15	-.46**	-.22*	-.10	.36**	.23*	.26**	.37**	2.59	1.04	100
Social		-.13	-.08	-.18	.30**	.33**	.25*	.37**	129.1	13.08	105
SR1			.24*	.18	-.42**	-.24*	-.22*	-.38**	1.78	1.47	10[illegible]
SR2				.14	-.34**	-.55**	-.13	-.43**	1.22	.73	93
SR5					-.22*	-.17	-.37**	-.34**	1.17	.60	103
ADJ1						.57**	.25*	(.76)	-.05	.86	10o
ADJ2							.39**	(.82)	-.01	.80	106
ADJ5								(.74)	4.28	.72	103
ADJT									-.02	.68	105

Note - The correlations in parentheses are spurious because, in these instances, ADJT includes the score with which it is correlated.

*$p < .05$
**$p < .01$

Footnotes

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